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## CITY OF MEMPHIS DIVISION OF ENGINEERING

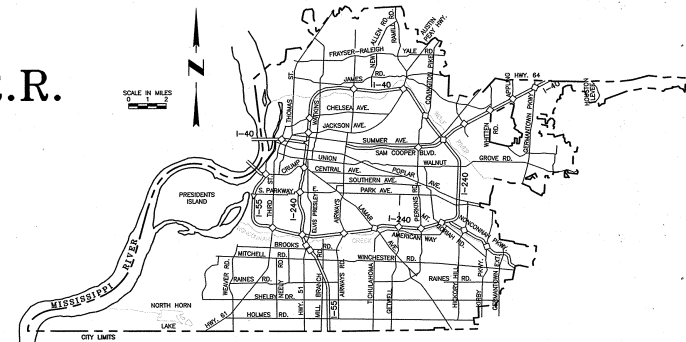
# ARRA SAM COOPER OVER R.R.

FEDERAL AID PROJECT NO. ARRA-STP-M-4032(7)  
STATE P.E. NO. 79LPLM-F0-193  
STATE CONST. PROJECT NO. 79LPLM-F3-194

CITY PROJECT NUMBER  
TDOT PIN 112835.00/CITY PROJECT PW02029

DATE OF BIDS  
JUNE 4, 2010

LOCALLY MANAGED PROJECT



# SAM COOPER BRIDGE OVER RAILROAD

## LEGEND

### PROFILE SYMBOLS

PROFILE SOUTH & EAST OF LINE  
PROFILE EXISTING GRADE LINE  
PROFILE NORTH & WEST OF LINE  
PROPOSED GRADE LINE

SEWER & DRAIN MANHOLE  
SEWER & DRAIN PIPE



### EXISTING PLAN

#### EXISTING SYMBOLS

#### PROPOSED

RIGHT OF WAY LINE  
CURB & GUTTER, NO. 6-72 INLET  
NO. 11 INLET  
CULVERT  
DRAIN PIPE  
SEWER PIPE  
DRAIN MANHOLE  
SEWER MANHOLE  
ELECTRICAL MANHOLE  
TELEPHONE MANHOLE  
WATER METER  
GAS OR WATER VALVE  
POWER POLE  
TELEPHONE OR TELEGRAPH POLE  
LIGHT POLE  
FIRE HYDRANT  
GUY WIRE

### PROPOSED PLAN

#### EXISTING SYMBOLS

#### PROPOSED SYMBOLS

TO 21" DIA. 34" & OVER  
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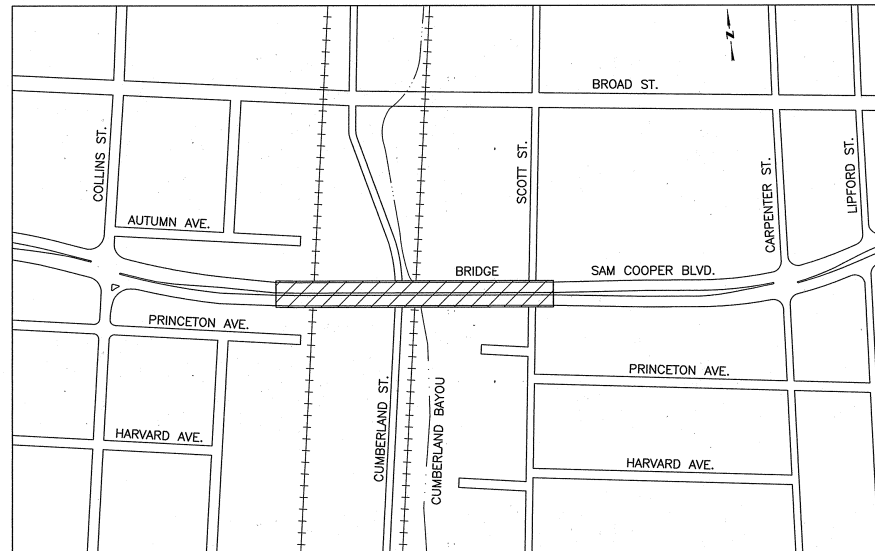
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LOCATION PLAN  
N.T.S.

THERE IS A NON-REFUNDABLE CHARGE OF (\$80.00)  
EIGHTY DOLLARS FOR THIS SET OF PLANS  
AND RELATED SPECIFICATIONS.

THIS PROJECT TO BE CONSTRUCTED UNDER THE STANDARD SPECIFICATIONS  
OF THE DIVISION OF ENGINEERING, CITY OF MEMPHIS, AND ADDITIONAL  
SPECIFICATIONS AND SPECIAL PROVISIONS CONTAINED IN THE PLANS AND  
IN THE PROPOSAL CONTRACT.

FOR UTILITIES: CALL "TENN. ONE CALL SYSTEMS INC.", 1-800-351-1111  
72 HOURS BEFORE DIGGING.

## NOTES:

1. THIS PROJECT IS TO BE CONSTRUCTED UNDER THE TENNESSEE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, MARSHALL COUNTY EDITION AS REVISED AND ADDITIONAL SPECIFICATIONS AND PROVISIONS CONTAINED IN THE PLANS AND IN THE PROPOSAL CONTRACT.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ANY UTILITY COMPANY WHICH MAINTAINS A UTILITY LINE WITHIN THE BOUNDARIES OR IN THE STREET BORDERING THE PROJECT PRIOR TO THE INITIATION OF ANY CONSTRUCTION. THE CONTRACTOR SHALL ALSO ASSUME THE RESPONSIBILITY FOR ANY DAMAGES INCURRED BY ANY UTILITY COMPANY TO THEIR UTILITY LINES WHETHER SHOWN ON THE CONSTRUCTION PLANS OR NOT DURING THE WORK ON THIS PROJECT. SOME UTILITIES CAN BE LOCATED BY CALLING THE TENNESSEE ONE CALL SYSTEM, INC., AT 1-800-351-1111.
3. ITEM NO. 202-01 [TDOT], "REMOVAL OF STRUCTURES AND OBSTRUCTIONS" SHALL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE. THIS PRICE WILL BE FULL COMPENSATION FOR ALL LABOR, EQUIPMENT, AND MATERIALS REQUIRED FOR THE REMOVAL AND DISPOSAL OF ALL SIDEWALK, CURB AND GUTTER, AND MEDIAN CONCRETE AS SHOWN ON THE PLANS.
4. ITEM NO. 403-01 [TDOT], "BITUMINOUS MATERIAL FOR TACK COAT (TC)" SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER TON. THIS PRICE WILL BE FULL COMPENSATION FOR ALL LABOR, MATERIAL, EQUIPMENT, AND SURFACE PREPARATION REQUIRED TO PLACE THE BITUMINOUS MATERIAL COMPLETE IN PLACE.
5. ITEM NO. 411-01.07 [TDOT], "ACS MIX (PG64-22) GRADING E SHOULDER" SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER TON. THIS PRICE WILL BE FULL COMPENSATION FOR PLACEMENT OF ASPHALT LEVELING OR BUSHING COURSE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
6. ITEM NO. 411-01.10 [TDOT], "ACS MIX (PG64-22) GRADING D" SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER TON. THIS PRICE WILL BE FULL COMPENSATION FOR ALL LABOR, EQUIPMENT, CONCRETE AND ANY MISCELLANEOUS MATERIALS TO PLACE ASPHALT GRADING D MIX AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
7. ITEM NO. 604-01.01 [TDOT], "CLASS A CONCRETE (ROADWAY)" SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC YARD. THIS PRICE WILL BE FULL COMPENSATION FOR ALL LABOR, EQUIPMENT, CONCRETE AND ANY MISCELLANEOUS MATERIALS TO FILL BRIDGE END DRAIN AT THE SOUTHWEST CORNER OF THE BRIDGE OR AS DIRECTED BY THE ENGINEER.
8. ITEM NO. 607-03.02 [TDOT], "18" CONCRETE PIPE CULVERT (CLASS III)" SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER LINEAR FOOT. THIS PRICE WILL BE FULL COMPENSATION FOR ALL LABOR, EQUIPMENT, AND ANY MISCELLANEOUS MATERIALS REQUIRED TO PLACE THE PIPE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
9. ITEM NO. 611-07.01 [TDOT], "CLASS A CONCRETE (PIPE ENDWALLS) (STRAIGHT TYPE)" SHALL BE PAID AT THE CONTRACT UNIT PRICE PER CUBIC YARD. THIS PRICE WILL BE FULL COMPENSATION FOR ALL LABOR, EQUIPMENT, AND ANY MISCELLANEOUS MATERIALS REQUIRED TO PLACE THE CONCRETE END WALL (STRAIGHT TYPE) PER TDOT STANDARD DRAWING D-PE-4.
10. ITEM NO. 611-07.02 [TDOT], "STEEL BAR REINFORCING (PIPE ENDWALLS)" SHALL BE PAID AT THE CONTRACT UNIT PRICE PER POUND. THIS PRICE WILL BE FULL COMPENSATION FOR ALL LABOR, EQUIPMENT, AND ANY MISCELLANEOUS MATERIALS REQUIRED TO PLACE THE REINFORCING STEEL IN THE CONCRETE END WALL (STRAIGHT TYPE) PER TDOT STANDARD DRAWING D-PE-4. ALL REINFORCING STEEL SHALL BE ASTM A615 GRADE 60 (SEE TDOT STANDARD SPECIFICATIONS SECTION 907).
11. ITEM NO. 611-12.02 [TDOT], "CATCH BASINS, TYPE 12, 4'-8" DEPTH" SHALL BE PAID AT THE CONTRACT UNIT PRICE PER EACH. THIS PRICE WILL BE FULL COMPENSATION FOR ALL LABOR, EQUIPMENT, AND ANY MISCELLANEOUS MATERIALS REQUIRED TO PLACE THE CATCH BASIN, TYPE 12, PER TDOT STANDARD DRAWING D-CB-12S.
12. ITEM NO. 620-10.47 [TDOT], "EXPANSION JOINT REPAIRS TYPE H" SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER LINEAR FOOT. THIS PRICE WILL BE FULL COMPENSATION FOR REMOVAL AND DISPOSAL OF EXISTING JOINT AS SHOWN ON THE PLANS AND ALL LABOR, EQUIPMENT, CONCRETE, REINFORCING, STRUCTURAL STEEL, AND ANY MISCELLANEOUS MATERIALS REQUIRED TO PLACE A TYPE H EXPANSION JOINT AT THE APPROACH SLABS. EXPANSION JOINT SHALL BE BUILT IN PHASES AS SHOWN ON THE PLANS. HIGH EARLY CONCRETE SHALL BE USED TO REDUCE DISRUPTIONS TO TRAFFIC. TRAFFIC SHALL NOT BE ALLOWED ON JOINT UNTIL CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF 3000 PSI OR A MINIMUM OF SEVEN (7) DAYS.
13. ITEM NO. 701-01.01 [TDOT], "CONCRETE SIDEWALK 4" THICK" SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT. THIS PRICE WILL BE FULL COMPENSATION FOR ALL LABOR, EQUIPMENT, SURFACE PREPARATION, AND EQUIPMENT REQUIRED TO PLACE A 4" THICK SIDEWALK AND CONCRETE MEDIAN AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
14. ITEM NO. 702-03 [TDOT], "CONCRETE COMBINED CURB AND GUTTER" SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC YARD. THIS PRICE WILL BE FULL COMPENSATION FOR ALL LABOR, EQUIPMENT, SURFACE PREPARATION, AND EQUIPMENT REQUIRED TO PLACE CURB AND GUTTER AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. CURB AND GUTTER SHALL MATCH EXISTING.
15. ITEM NO. 712-01 [TDOT], "TRAFFIC CONTROL" SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER LUMP SUM. THIS PRICE WILL BE FULL COMPENSATION FOR FURNISHING ALL FLAGGERS, TRAFFIC CONES AND REMOVING CONFLICTING AND INCORRECT PAVEMENT MARKINGS, AS REQUIRED, UNTIL PROJECT COMPLETION.
16. ITEM NO. 712-02.02 [TDOT], "INTERCONNECTED PORTABLE BARRIER RAIL" SHALL BE PAID AT THE CONTRACT UNIT PRICE PER LINEAR FOOT. THIS PRICE WILL BE FULL COMPENSATION FOR FURNISHING ALL MATERIALS, INSTALLATION, MAINTENANCE AND ALL INCIDENTALS TO PLACE BARRIER RAILS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
17. ITEM NO. 712-04.01 [TDOT], "FLEXIBLE DRUMS (CHANNELIZATION)" SHALL BE PAID AT THE CONTRACT UNIT PRICE PER EACH. THIS PRICE WILL BE FULL COMPENSATION FOR FURNISHING ALL MATERIALS, INSTALLATION, MAINTENANCE AND ALL INCIDENTALS TO PLACE DRUMS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
18. ITEM NO. 712-05.01 [TDOT], "WARNING LIGHTS (TYPE A)" SHALL BE PAID THE CONTRACT UNIT PRICE PER EACH. THIS PRICE WILL BE FULL COMPENSATION FOR FURNISHING ALL MATERIALS, INSTALLATION, MAINTENANCE AND ALL INCIDENTALS TO PLACE LIGHTS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
19. ITEM NO. 712-05.03 [TDOT], "WARNING LIGHTS (TYPE C)" SHALL BE PAID THE CONTRACT UNIT PRICE PER EACH. THIS PRICE WILL BE FULL COMPENSATION FOR FURNISHING ALL MATERIALS, INSTALLATION, MAINTENANCE AND ALL INCIDENTALS TO PLACE LIGHTS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
20. ITEM NO. 712-06 [TDOT], "SIGNS (CONSTRUCTION)" SHALL BE PAID THE CONTRACT UNIT PRICE PER SQUARE FOOT. THIS PRICE WILL BE FULL COMPENSATION FOR FURNISHING ALL MATERIALS, INSTALLATION, MAINTENANCE AND ALL INCIDENTALS TO PLACE THE SIGNS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
21. ITEM NO. 712-07.03 [TDOT], "TEMPORARY BARRICADES (TYPE III)" SHALL BE PAID THE CONTRACT UNIT PRICE PER LINEAR FOOT. THIS PRICE WILL BE FULL COMPENSATION FOR FURNISHING ALL MATERIALS, EQUIPMENT, INSTALLATION, RELOCATING, MAINTENANCE AND ALL INCIDENTALS TO PLACE THE BARRICADES AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
22. ITEM NO. 717-01 [TDOT], "MOBILIZATION" SHALL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE. THIS PRICE WILL BE FULL COMPENSATION FOR FURNISHING BOND, INSURANCE, AND ALL MATERIALS AND LABOR REQUIRED TO BEGIN THE WORK AS SHOWN ON THE PLANS.
23. ITEM NO. 920-10.01 [TDOT], "CONCRETE LIFTING AND STABILIZATION OF WEST APPROACH SLAB PHASE 1" SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER LUMP SUM. THIS PRICE WILL BE FULL COMPENSATION FOR ALL LABOR, EQUIPMENT, AND MATERIALS REQUIRED TO FILL VOIDS BENEATH AND LIFT THE CONCRETE APPROACH SLAB BY A WATER HIGH-DENSITY POLYURETHANE USING AN INJECTION METHOD IN ACCORDANCE TO THE SPECIFICATIONS AND INJECTION PLAN SUBMITTED TO THE CITY OF MEMPHIS, DIVISION OF ENGINEERING FOR REVIEW AND APPROVAL. IT IS ESTIMATED THAT THERE WILL BE APPROXIMATELY 400 CUBIC FEET OF VOID BENEATH THE SLAB ON THE SOUTHWEST SIDE AND 80 CUBIC FEET LOCATED FOR THE CENTER AND NORTHWEST SIDE OF THE SLAB. THE LIFTING OF THE SLAB SHALL BE DONE PRIOR TO REPAIR OF THE JOINT.
24. THE CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH THE CITY OF MEMPHIS OFFICE OF CONSTRUCTION INSPECTIONS.
25. TEMPORARY SILT FENCE SHALL BE PLACED AT LOCATIONS AS DESIGNATED BY THE ENGINEER. THIS ITEM SHALL BE BID WITH THE CONTINGENCY THAT IT MAY BE INCREASED, DECREASED, OR ELIMINATED AS DIRECTED BY THE ENGINEER.

## ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
202-01	REMOVAL OF STRUCTURES & OBSTRUCTIONS	L.S.	1
403-01	BITUMINOUS MATERIALS FOR TACK COAT (TC)	TON	1
411-01.07	ACS MIX (PG64-22) GRADING "E" SHOULDER	TON	25
411-01.10	ACS MIX (PG64-22) GRADING "D"	TON	50
604-01.01	CLASS "A" CONCRETE (ROADWAY)	C.Y.	1
607-03.02	18" CONCRETE PIPE CULVERT (CLASS III)	L.F.	30
611-07.01	CLASS "A" CONCRETE (PIPE ENDWALLS) (STRAIGHT TYPE)	C.Y.	2
611-07.02	STEEL BAR REINFORCING (PIPE ENDWALLS)	LB.	20
611-12.02	CATCH BASINS, TYPE 12, > 4'- 8' DEPTH	EA.	1
620-10.47	EXPANSION JOINT REPAIR, TYPE "H" (TDOT)	L.F.	95
701-01.01	CONCRETE SIDEWALK (4" THICK)	S.F.	510
702-03	CONCRETE COMBINED CURB AND GUTTER	C.Y.	15
712-01	TRAFFIC CONTROL	L.S.	1
712-02.02	INTERCONNECTED PORTABLE BARRIER RAIL	L.F.	1,900
712-04.01	FLEXIBLE DRUMS (CHANNELIZATION)	EA.	140
712-05.01	WARNING LIGHTS (TYPE "A")	EA.	8
712-05.03	WARNING LIGHTS (TYPE "C")	EA.	140
712-06	SIGNS (CONSTRUCTION)	S.F.	430
712-07.03	TEMPORARY BARRICADES (TYPE III)	S.F.	108
717-01	MOBILIZATION	L.S.	1
920-10.05	CONCRETE LIFTING & STABILIZATION OF WEST APPROACH SLAB (TDOT)	L.S.	1
209-08.02	TEMPORARY SILT FENCE (WITH BACKING)	L.F.	100

## BID SPECIFICATIONS FOR RAISING AND UNDERSEALING CONCRETE SLABS

DESCRIPTION: THIS ITEM SHALL GOVERN FOR RAISING AND UNDERSEALING OF CONCRETE SLABS.

MATERIAL: THE MEDIUM USED FOR RAISING CONCRETE SLABS SHALL BE A WATER BLOWN HIGH-DENSITY POLYURETHANE. THE HIGH-DENSITY, CLOSED CELL, POLYURETHANE SYSTEM SHALL EXHIBIT THE FOLLOWING PHYSICAL CHARACTERISTICS AND PROPERTIES:

DENSITY (LB/FT <sup>3</sup> )	COMPRESSIVE STRENGTH (PSI)
2.03 PCF	26 PSI
2.98 PCF	42 PSI
3.69 PCF	63 PSI
6.0 PCF	118 PSI
ASTM 1622	ASTM 1621

THE POLYURETHANE FOAM SYSTEM WILL HAVE A FREE RISE DENSITY OF 2.69-3.2 LB/FT<sup>3</sup>, WITH A MINIMUM COMPRESSIVE STRENGTH OF 40 PSI. THE EXPANSION OF THE POLYURETHANE FOAM UNDER PRESSURE INCREASES THE FOAM DENSITY ABOVE THE ORIGINAL FREE RISE DENSITY VALUE. THE COMPRESSIVE STRENGTH IS A FUNCTION OF DENSITY OF THE TESTED MATERIAL; THEREFORE THE FOAM PRODUCED DURING THE LIFTING PROCESS WILL NORMALLY HAVE A HIGHER COMPRESSIVE STRENGTH THAN FOAM PRODUCED WITHOUT RESTRICTION (FREE RISE). WHEN MATERIAL IS USED FOR VOID FILLING, THE FREE RISE DENSITY WILL BE SLIGHTLY HIGHER THAN FREE RISE DENSITY, AS SOME PACKING OF MATERIAL WILL OCCUR TO ENSURE FILL.

EQUIPMENT: A LISTING OF LIFTING AND UNDERSEALING EQUIPMENT REQUIRED SHALL BE SUBMITTED TO THE ENGINEERING DEPARTMENT FOR REVIEW. THE MINIMUM LIST OF EQUIPMENT REQUIRED SHALL BE LISTED BELOW. THE LISTING IS A MINIMUM AND SHALL NOT PRECLUDE THE USE OF ADDITIONAL EQUIPMENT.

A. DRILLING EQUIPMENT CAPABLE OF DRILLING HOLES OF SUFFICIENT DIAMETER AND DEPTH TO EFFECTIVELY INJECT THE MATERIAL.

B. EQUIPMENT CAPABLE OF CONTROLLING THE RATE OF RISE OF THE CONCRETE.

C. A LEVELING CONTROL SYSTEM TO ENSURE THAT THE CONCRETE IS RAISED TO AN EVEN PLANE AND TO THE REQUIRED ELEVATIONS.

CONTRACTOR EXPERIENCE: THE CONTRACTOR SHALL DEMONSTRATE PREVIOUS EXPERIENCE USING HIGH-DENSITY POLYURETHANE TO RAISE AND UNDERSEAL CONCRETE SLABS AS DEMONSTRATED BY COMPLETED JOB REFERENCES.

## CONSTRUCTION METHODS:

DRILLING: THE INJECTION HOLES SHALL BE DRILLED FOLLOWING A PLAN TO BE SUBMITTED TO THE CITY OF MEMPHIS, DIVISION OF ENGINEERING FOR REVIEW AND APPROVAL.

INJECTING: THE HIGH-DENSITY POLYURETHANE FORMULATION WILL BE INJECTED UNDER THE SLAB. THE PLAN MENTIONED ABOVE SHALL INCLUDE METHODS AND PRECAUTIONS TO BE FOLLOWED TO ASSURE THAT THE NECESSARY LIFTING FORCES ARE APPLIED AND THAT FINAL ELEVATIONS ARE ESTABLISHED FOR THE FINISHED CURED PRODUCT. PRIOR TO THE SLAB BEING LIFTED AND SEALED, THE CONTRACTOR SHALL REPAIR ANY BLOWOUTS THAT MAY RESULT FROM THE PROPOSED WORK.

CURING-TIME: THE INSTALLED MATERIAL SHALL REACH 90% OF FULL COMPRESSIVE STRENGTH WITHIN 15 MINUTES OF INJECTION.

VARYING SITE CONDITIONS: THE CONTRACTOR SHALL BE PREPARED TO EXECUTE ADJUSTMENTS IN THE SCOPE OF WORK TO ACCOMMODATE VARYING SITE CONDITIONS. THE CONTRACTOR IS ADVISED TO VISIT THE SITE AND OBSERVE THE CONDITIONS OF THE PROPOSED WORK. THE PLANS INDICATE THE ENGINEERS' BEST ESTIMATE OF THE AMOUNT OF VOID SPACE TO BE FILLED. ANY INCREASES OR REDUCTIONS IN THE COST OF THE WORK REQUIRED TO ACCOMMODATE VARYING SITE CONDITIONS SHALL REQUIRE APPROVAL OF AN APPROPRIATE CHANGE OF ORDER TO THE CONTRACT. APPROVAL SHALL NOT BE UNREASONABLY WITHHELD FOR ITEMS OF WORK REQUIRED OF THE CONTRACTOR IN THIS SPECIFICATION.

DEFECTS IN EXISTING CONSTRUCTION: SHOULD THE PROPOSED WORK DAMAGE OTHER ITEMS OF WORK OR ADJOINING CONSTRUCTION AT THE PROJECT SITE AND SUCH DAMAGES ARE THE RESULT OF DEFECTIVE AS-BUILT CONSTRUCTION, DESIGN DEFICIENCIES, NON-CONFORMING CONSTRUCTION, OR DEFECTIVE MATERIALS INCORPORATED INTO THE EXISTING CONSTRUCTION, THE CONTRACTOR SHALL NOT IN ANY WAY BE HELD RESPONSIBLE FOR THESE DAMAGES IF THE CONTRACTOR STRICTLY FOLLOWS THE APPROVED INSTALLATION PLAN SUBMITTED TO AND APPROVED BY THE CITY OF MEMPHIS, DIVISION OF ENGINEERING. IF DURING CONSTRUCTION ANY ONGOING QUESTIONS ARISE WHICH MAY INDICATE A DEVIATION FROM THE PLAN IS TO BE FOLLOWED IT MUST BE APPROVED BY THE CITY OF MEMPHIS, DIVISION OF ENGINEERING.

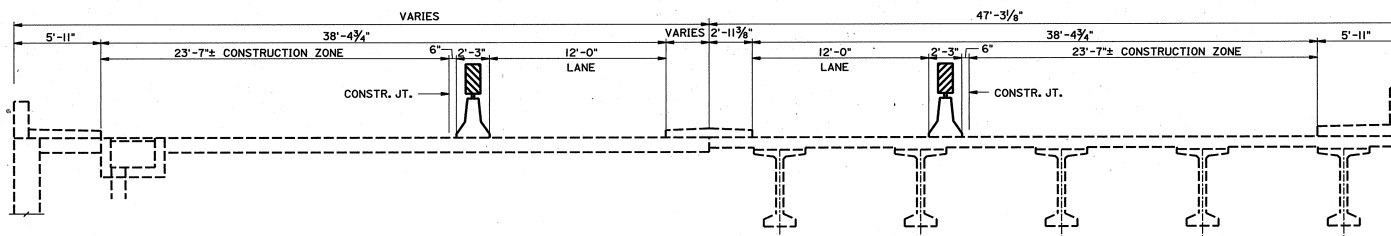
WARRANTY: THE PRODUCT SHALL BE WARRANTED NOT TO SHRINK OR SWELL FOR A PERIOD OF TIME OF AT LEAST 10 YEARS. WARRANTY INFORMATION SHALL BE SUPPLIED TO THE CITY OF MEMPHIS FOR ITS REVIEW AND APPROVAL.

REVISIONS		
DATE	DESCRIPTIONS	APPROVED



SHEET ____ OF ____	
DIVISION OF PUBLIC WORKS	
<b>SAM COOPER BOULEVARD</b>	
ESTIMATED QUANTITIES	
MEMPHIS, TENN.	
SURVEY N/A	DATE ____ BOOK N/A
DRAFTED L.R.H.	DATE 9/09 SCALE N.T.S.
DESIGNED M.E.M.	DATE 9/09 CHECKED
APPROVED	
CITY CIVIL DESIGN ENGINEER	CITY ENGINEER
5/12/10	5/12/10

PROJECT NO. \_ST03108\_

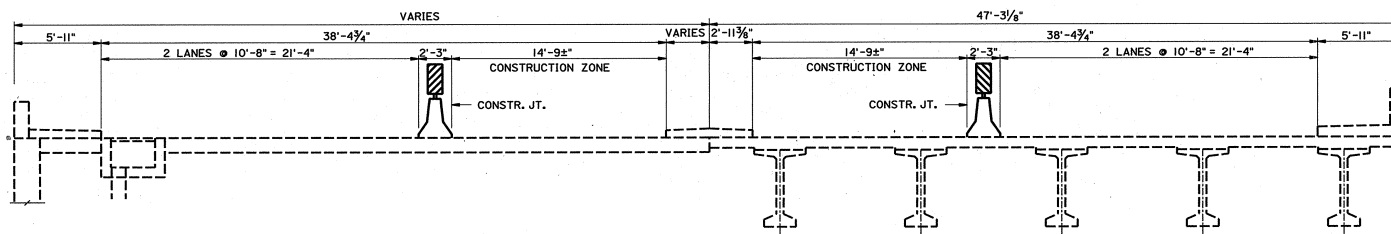


SECTION THRU APPROACH SLAB

SECTION THRU BRIDGE

**PHASE I OR PHASE II CONSTRUCTION**

SCALE: 1/4" = 1'-0"  
LOOKING AHEAD



SECTION THRU APPROACH SLAB

SECTION THRU BRIDGE

**PHASE III CONSTRUCTION**

SCALE: 1/4" = 1'-0"  
LOOKING AHEAD

**PHASE I:**

1. REPAIR DRAIN INLET AS SHOWN ON SHEET 7.
2. FILL VOIDS BENEATH APPROACH SLAB AND ABUTMENT USING INJECTION PROCESS WITH A WATER BLOWN HIGH-DENSITY POLYURETHANE.
3. REPAIR APPROACH SLAB EXPANSION JOINT AS SHOWN ON SHEET 7.

**PHASE II:**

1. FILL VOIDS BENEATH APPROACH SLAB AND ABUTMENT USING INJECTION PROCESS WITH A WATER BLOWN HIGH-DENSITY MATERIAL.
2. REPAIR APPROACH SLAB EXPANSION JOINT AS SHOWN ON SHEET 7.

**PHASE III:**

1. FILL VOIDS BENEATH APPROACH SLAB AND ABUTMENT USING INJECTION PROCESS WITH A WATER BLOWN HIGH-DENSITY MATERIAL.
2. REPAIR APPROACH SLAB EXPANSION JOINT AS SHOWN ON SHEET 7.

**LEGEND:**

- DENOTES PROPOSED STRUCTURE
- - - DENOTES EXISTING STRUCTURE
- /// DENOTES STRUCTURE TO BE REMOVED

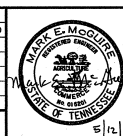
CUMBERLAND DRAINAGE DISTRICT  
SHEET \_\_\_ OF \_\_\_

DIVISION OF ENGINEERING

**SAM COOPER PARKWAY**  
SEQUENCE OF CONSTRUCTION  
MEMPHIS, TENN.

SURVEY N/A DATE 10/08 BOOK N/A  
DRAFTED MEM DATE 10/08 CHECKED MEM DATE 10/08  
DESIGN TP DATE 10/08 APPROVED DATE 5/12/10  
CITY CIVIL DESIGN ENGR DATE CITY ENGINEER DATE

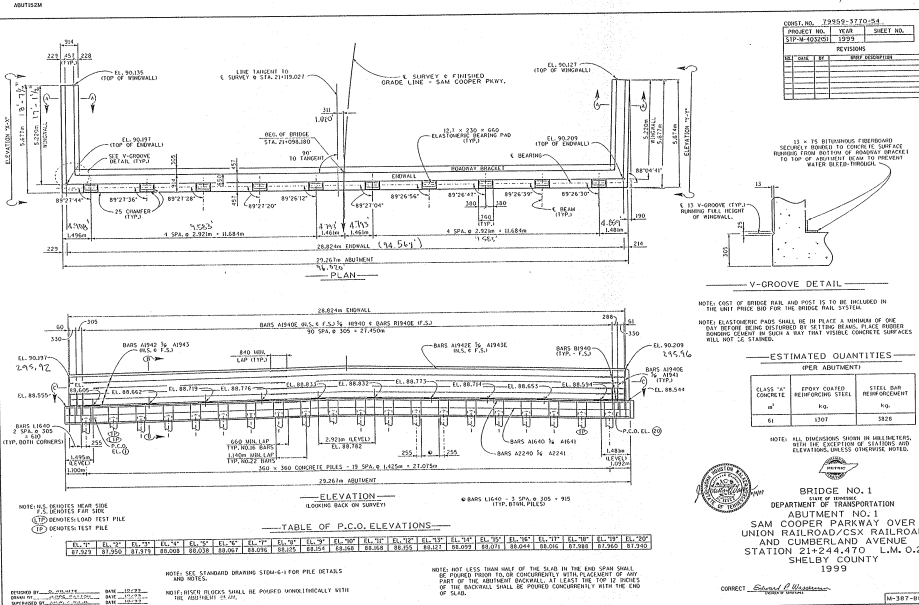
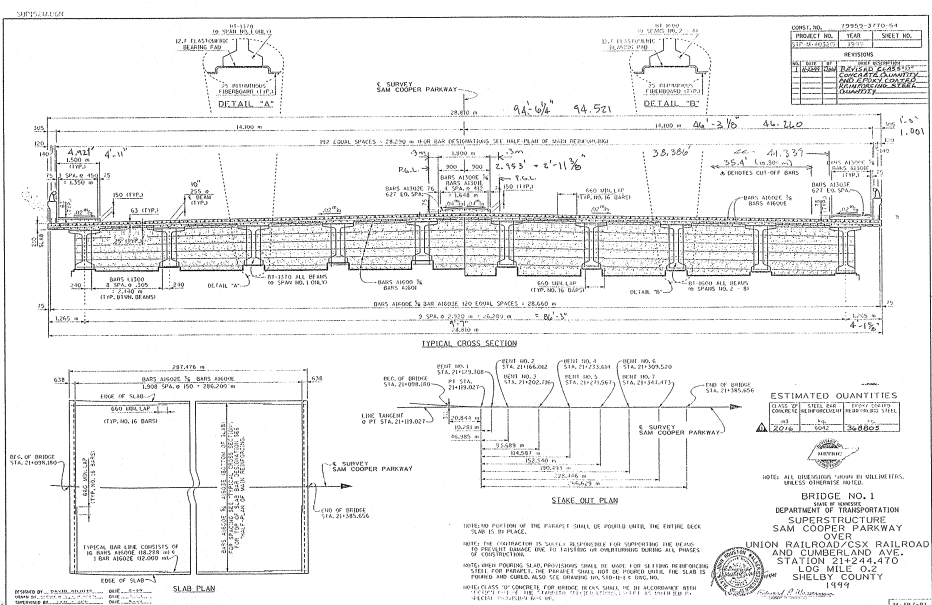
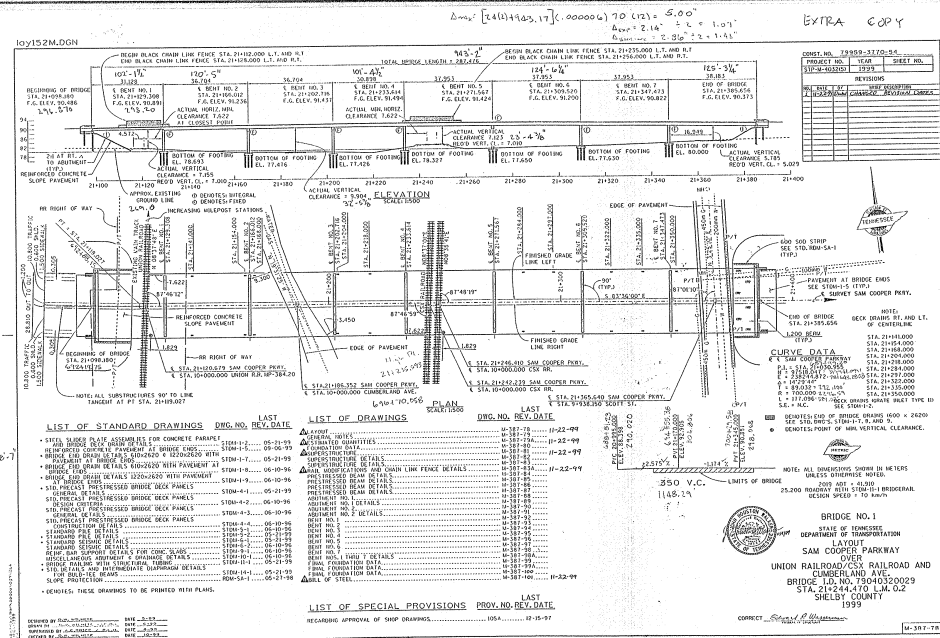
REVISIONS		
DATE	DESCRIPTIONS	APPROVED



PROJECT NO. ST03108

3





**EROSION CONTROL NOTE:**

THE CONTRACTOR SHALL MAINTAIN A PROACTIVE METHOD AND/OR METHODS TO PREVENT THE MIGRATION OF CONSTRUCTION DEBRIS, RUNOFF FROM CONSTRUCTION OPERATIONS, PETROLEUM BASED PRODUCTS AND/OR ANY CHLORINATED SOLVENTS FROM ENTERING THE RAILROAD'S RIGHTS-OF-WAY AND TRACK DRAINAGE DITCHES. IF SUCH MATERIALS DO ENTER THE RAILROAD'S RIGHTS-OF-WAY AS A RESULT OF ANY OF THE CONTRACTOR'S REPAIR CONSTRUCTION OPERATIONS, THE CLEANUP AND/OR REMOVAL OF SUCH MATERIALS FROM THE RAILROAD'S RIGHTS-OF-WAY SHALL BE AT THE EXPENSE OF THE CONTRACTOR, WITH THE REMOVAL OF SUCH MATERIALS BEING DONE IN ACCORDANCE WITH SPECIFIC RULES AND PROCEDURES AS STATED BY THE RAILROAD.

**RAILROAD NOTES:**

(1.) PRIOR TO BEGINNING ANY WORK ON THIS PROJECT, THE CONTRACTOR IS REQUIRED TO ENTER INTO A FORMAL RIGHT-OF-ENTRY AGREEMENT WITH THE UNION PACIFIC RAILROAD.

(2.) THE CONTRACTOR SHALL CONDUCT HIS WORK SO AS TO PROTECT THE RAILROADS' TRACKS AND PROPERTIES FROM ANY DAMAGE. THE WORK SHALL BE DONE IN ACCORDANCE WITH REGULATIONS STIPULATED BY THE RAILROADS BEING IMPACTED BY THIS PROJECT, SO AS TO MAINTAIN CLEARANCE AND NOT INTERRUPT TRAIN TRAFFIC IN ANY MANNER.

(3.) THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT A DETAILED AND COMPREHENSIVE PLAN AND PROCEDURE FOR REVIEW AND APPROVAL BY THE UNION PACIFIC RAILROAD'S MANAGER FOR INDUSTRIAL AND PUBLIC PROJECTS (CONTACT ADDRESS LISTED BELOW) TO THE UNION PACIFIC RAILROAD AT THE PRE-CONSTRUCTION MEETING, BUT NO LATER THAN BEFORE THE REQUIRED RIGHT-OF-ENTRY AGREEMENT HAS BEEN EXECUTED BETWEEN THE CONTRACTOR AND THE RAILROAD FOR THE FOLLOWING TASKS NEAR AND/OR WITHIN THE RAILROAD'S RIGHTS-OF-WAY:

(A) THE CONCRETE LIFTING AND FILLING OF VOIDS UNDER THE WEST END APPROACH SLAB AND THE WEST END ABUTMENT OF THE PROJECT BRIDGE.

(B) THE REMOVAL AND REPLACEMENT OF THE WEST END APPROACH SLAB EXPANSION JOINT.

THE CONTRACTOR SHALL USE EXTREME CARE AND TAKE ANY MEASURES NECESSARY TO PREVENT CONSTRUCTION DEBRIS FROM FALLING ON TO THE RAILROAD'S RIGHTS-OF-WAY, AND THAT FULL ENCLOSURE OF ANY STRUCTURE DEMOLITION WITHIN ALLOWABLE CLEARANCES WILL BE REQUIRED. THE COST OF REMOVING AND DISPOSING OF CONSTRUCTION DEBRIS SHALL BE INCLUDED IN UNIT ITEMS BID ON.

THE RAILROAD RESERVES THE RIGHT TO DETERMINE IF OR WHEN ANY RAILROAD FLAGGING SERVICES ARE REQUIRED ON THIS PROJECT, AND IF SUCH FLAGGING SERVICES ARE DETERMINED BY THE RAILROAD AS BEING REQUIRED, THE RULES GOVERNING FLAGGING ARE INCLUDED IN THE SPECIAL PROVISIONS FOR PROTECTION OF RAILWAY INTEREST, WHICH SPECIAL PROVISIONS ARE INCLUDED AS AN EXHIBIT TO ANY AGREEMENT BETWEEN THE CITY OF MEMPHIS AND THE UNION PACIFIC RAILROAD FOR THIS PROJECT.

THE RAILROADS' CONTACT ADDRESSES ARE AS FOLLOWS:

(FOR INFORMATION ONLY):

CSX TRANSPORTATION, INC.  
ATTN: MR. SHELBY STEVENSON, PRINCIPAL ENGINEER - PUBLIC PROJECTS  
500 WATER STREET, SC/J-301  
JACKSONVILLE, FL 32202  
PHONE: (904) 359-1177  
E-MAIL: shelby.stevenson@csx.com

(FOR COORDINATION AND AGREEMENT PROCESS):

UNION PACIFIC RAILROAD  
ATTN: MR. CHARLES FELKINS, MANAGER OF INDUSTRIAL AND PUBLIC PROJECTS  
1000 WEST 4TH STREET  
NORTH LITTLE ROCK, AR 72114  
PHONE: (501) 373-2927  
E-MAIL: charlesfelkins@up.com

CUMBERLAND DRAINAGE DISTRICT  
SHEET 1 OF 1

REVISIONS		
DATE	DESCRIPTIONS	APPROVED



DIVISION OF PUBLIC WORKS  
**SAM COOPER PARKWAY**  
RAILROAD NOTES  
MEMPHIS, TENN.

SURVEY DATE 10/08 BOOK  
DRAFTED MEM DATE 10/08 SCALE AS SHOWN  
DESIGN MEM DATE 10/08 CHECKED MEM DATE 02/09  
APPROVED 5/12/10  
CITY CIVIL DESIGN DATE CITY ENGINEER DATE

PROJECT NO. ST03108

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